

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claim 1-58 (Cancelled).

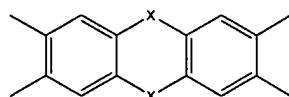
59. (Currently Amended) A microporous material which is a non-network polymer having a chain comprised of repeating units bonded to each other and each including a first generally planar species and a rigid linker, said rigid linker having a point of contortion such that two adjacent first planar species connected by a rigid linker are held in a non-coplanar orientation, and the polymer being such that said repeating units comprised of the first generally planar species and the rigid linker are bonded predominately to two other such repeating units.

60. (Previously Presented) A microporous material according to claim 59, wherein the point of contortion is a spiro group, a bridged ring moiety or a sterically congested single covalent bond around which there is restricted rotation.

61. (Previously Presented) A microporous material according to claim 59, wherein the point of contortion is provided by a substituted or unsubstituted spiro-indane, bicyclo-octane, biphenyl or binaphthyl moiety.

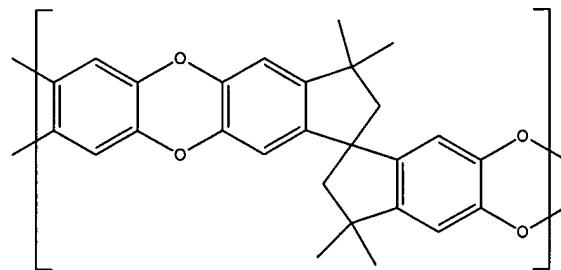
62. (Previously Presented) A microporous material according to claim 59, wherein each of the first planar species comprises at least one aromatic ring.

63. (Previously Presented) A microporous material according to claim 59, wherein each of the first planar species comprises a substituted or unsubstituted moiety of the formula:



where X is O, S or NH.

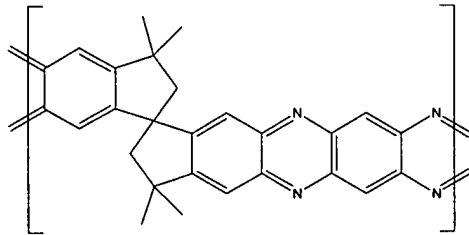
64. (Previously Presented) A microporous material according to claim 59, wherein the material comprises repeating units of formula:



which may be substituted or unsubstituted.

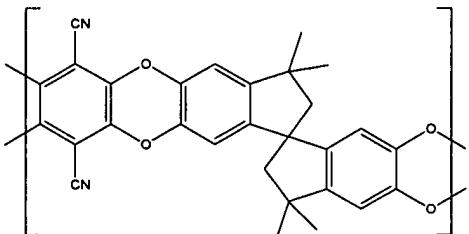
65. (Currently Amended) A microporous material which is a non-network polymer having a chain comprised of repeating units bonded to each other and each

including a first generally planar species and a rigid linker, said rigid linker having a point of contortion such that two adjacent first planar species connected by a rigid linker are held in a non-coplanar orientation, and the polymer being such that said repeating units comprised of the first generally planar species and the rigid linker are bonded predominately to two other such repeating units according to claim 59,
wherein the material comprises repeating units of formula:



which may be substituted or unsubstituted.

66. (Currently Amended) A microporous material according to claim 59, wherein the material comprises repeating units of formula:



67. (Currently Amended) A microporous material according to claim 64, wherein
~~the organic macromolecules are comprised of at least 70 % by mole of the first~~
~~planar species are connected by the rigid linkers to a maximum of two other said~~
~~planar species repeating unit.~~

68. (Currently Amended) A microporous material according to claim ~~67~~ 65, wherein
~~the organic macromolecules are comprised of at least 80 % by mole of the first~~
~~planar species are connected by the rigid linkers to a maximum of two other said~~
~~planar species repeating unit.~~

69. (Currently Amended) A microporous material according to claim ~~68~~ 66, wherein
~~the organic macromolecules are comprised of at least 90 % by mole of the first~~
~~planar species are connected by the rigid linkers to a maximum of two other said~~
~~planar species repeating unit.~~

70. (Previously Presented) A microporous material according to claim 59, wherein
the material has a surface area of at least $300 \text{ m}^2 \text{ g}^{-1}$.

71. (Previously Presented) A microporous material according to claim 59, wherein
the material has an average pore diameter of less than 100 nm.

72. (Previously Presented) A microporous material according to claim 59, wherein the material has a number average mass in the range 1×10^3 to 1000×10^3 amu compared to polystyrene standards.

73. (Withdrawn) A method for producing the microporous material of claim 59 comprising reacting a first monomer unit having a point of contortion with a pair of second generally planar monomer units.

74. (Withdrawn) A membrane comprising a microporous material according to claim 59.

75. (Withdrawn) A membrane according to claim 74, wherein the membrane has a thickness which is less than or equal to 2 mm.

76. (Withdrawn) A membrane according to claim 74, wherein the membrane includes an additional entity selected from a catalyst species, an organometallic species, an inorganic species, at least one type of metal ion; and at least one type of metal particle.

77. (Withdrawn) A method for producing a free standing membrane in accordance with claim 74, the method comprising the steps of: i) casting a solution of the microporous material of which the membrane is comprised; and ii) evaporating the solvent to produce the membrane.

78. (Withdrawn) A method in accordance with claim 77, wherein the membrane produced is cross-linked using a suitable cross-linking agent.

79. (Withdrawn) A method for separating a first species from a mixture of said first species and a second species, the method comprising the steps of: i) applying the mixture to one side of a membrane in accordance with claim 74; ii) causing the first species to pass through the membrane; and iii) collecting the first species from an opposite side of the membrane.

80. (Withdrawn) A method for enriching a first species in a first mixture of said first species and a second species, the method comprising the steps of: i) applying the first mixture to one side of a membrane in accordance with claim 74; ii) causing the first mixture to pass through the membrane; and iii) collecting a second mixture of the first and second species, which is enriched in respect of the first species compared to the first mixture, from an opposite side of the membrane.

81. (Withdrawn) A catalyst system comprising a catalytic species and a microporous material according to claim 59.

82. (Withdrawn) A tissue support comprising a microporous material according to claim 59.

83. (Previously Presented) A molecular sensor comprising a microporous material according to claim 59.

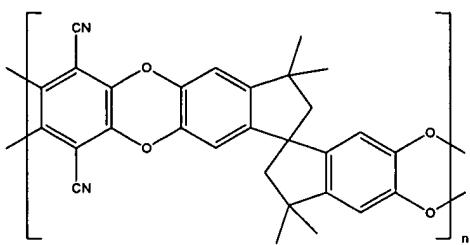
84. (Previously Presented) An opto-electronic material comprising a microporous material according to claim 59.

85. (Previously Presented) A microporous material comprising organic macromolecules comprised of first generally planar species connected by rigid linkers having a point of contortion such that two adjacent first planar species connected by the linker are held in non-coplanar orientation, subject to the proviso that the first species are other than porphyrinic macrocycles.

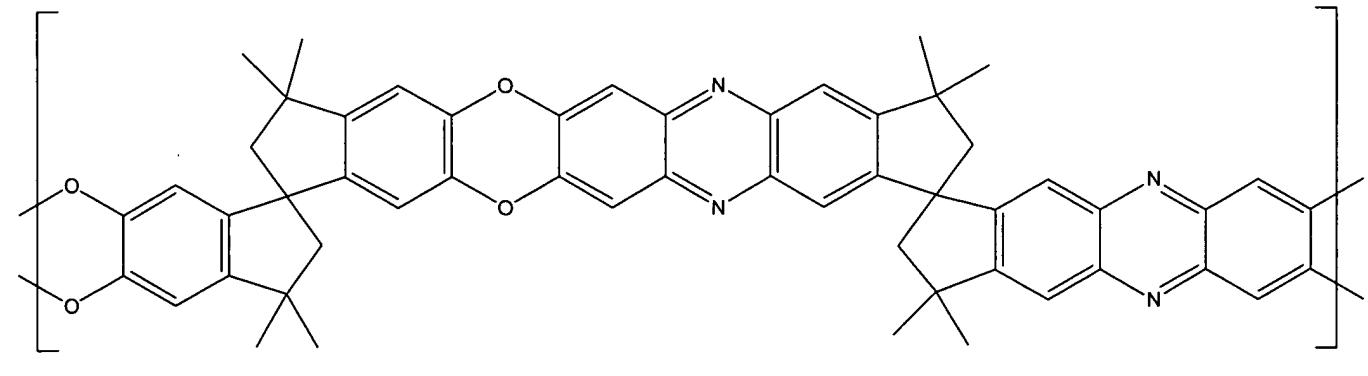
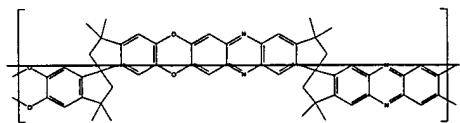
86. (Previously Presented) A method for producing a supported membrane in accordance with claim 74, the method comprising the steps of i) applying a solution of the microporous material of which the membrane is comprised onto a suitable support; and ii) evaporating the solvent to produce the membrane.

87. (Cancelled).

88. (Previously Presented) A microporous polymeric material comprising a polymeric chain of the following formula:



89. (Currently Amended) A microporous material according to claim 59 wherein the material comprises repeating units of the formula:



which may be substituted or unsubstituted.

90. (New) A microporous material according to claim 65 wherein at least 70% by mole of the first planar species are connected by the rigid linkers for a maximum of two other said planar species.

91. (New) A microporous material according to claim 90 wherein at least 80% by mole of the first planar species are connected by the rigid linkers for a maximum of two other said planar species.

92. (New) A microporous material according to claim 91 wherein at least 90% by mole of the first planar species are connected by the rigid linkers for a maximum of two other said planar species.

93. (New) A microporous material according to claim 66 wherein at least 70% by mole of the first planar species are connected by the rigid linkers for a maximum of two other said planar species.

94. (New) A microporous material according to claim 93 wherein at least 80% by mole of the first planar species are connected by the rigid linkers for a maximum of two other said planar species.

95. (New) A microporous material according to claim 94 wherein at least 90% by mole of the first planar species are connected by the rigid linkers for a maximum of two other said planar species.